

Protein hydrolysates obtained from Azufrado (sulphur yellow) beans (*Phaseolus vulgaris*): Nutritional, ACE-inhibitory and antioxidative characterization

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Abstract

The goals of the present work were to evaluate the nutraceutical and functional properties of protein hydrolysates obtained from three cultivars of Azufrado (sulphur yellow) beans. Bean protein concentrates were obtained and digested with Alcalase™, Thermolysin™ and Pancreatin™. The Azufrado Higuera cultivar showed the best protein yield/concentration ratio, having a higher amount of hydrolysates compared to the rest of the varieties. All treatments presented ACE-Inhibitory activity, these values ranged from 0.109 to 319.96 µg/ml. Regarding to antioxidant activity, the Az. Higuera/alcalase treatment showed the highest DPPH scavenging activity (40%), however with the ABTS method the Az. Regional '87-alcalase was the best treatment (99.89% of scavenging). Overall, the results of our work showed that Azufrado beans proteins hydrolysates are suitable for development of a nutraceutical product for prevention and control of degenerative diseases such as hypertension and those derived from cellular oxidation.

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